

COMMUNICATION AND NETWORKING RISER ECR FORM

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ECR# (assigned internally): #004

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Title of the Change: BIOS messages - pause and acknowledge

Specification Title and Version: CNR Specification, Version 1.0

Reason for Change:

Add a requirement to the BIOS messages displayed during Power On Self Test (POST) to force the person monitoring the boot process to acknowledge and accept that an error was found with the CNR/Motherboard configuration (as requested by Microsoft).

Description of Change:

Any place that a BIOS message is displayed, for CNR errors, the text "Press F1 to Resume" must be displayed and the BIOS must wait for the "F1" key to be pressed, before continuing the boot process. This will insure that the person booting the system understands that there is a configuration error and that they accept the error. The changes required are shown below by the (red) italicized text.

Also underlined and bolded the word "must" prior to each message to reinforce the requirements for the messages.

1. Section 6.2 add additional note that required BIOS to pause and wait for the F1 key to be pressed before continuing with the boot process.

6.2 BIOS Requirements

Support of a CNR connector on the motherboard requires specialized BIOS support. This BIOS support must perform a variety of functions specifically for the CNR, including identifying the CNR board presence, downloading information from the PnP EEPROM on the CNR board, and finally configuring, enabling, or disabling each of the interfaces and attached devices. The flowcharts below, along with the following sections, describe the motherboard BIOS requirements in support of a CNR Connector.

***Note:** There several places, in the following sections, where the BIOS is required to place an error message on the display. Following each message the text "Press F1 to Resume" is also displayed. The BIOS is required to pause and wait for the F1 key to be pressed prior to continuing with the boot process.*

***Note:** The exact algorithms or timing requirements to perform specific functions on the SMBus interface are not provided. It is the responsibility of the BIOS developer to determine the proper method to access and implement standard SMBus functions called out in this specification.*

2. Section 6.2.2, Step 6 to be changed as indicated by the (red) italicized text:

6. If the calculated and extracted checksum values do not match, the BIOS ***must*** display the message "CNR Plug-and-Play EEPROM contents are damaged. CNR devices will be ignored. ***Press F1 to Resume.***", indicating that a checksum error exists on the installed riser board. *After the F1 key is pressed, the BIOS should not continue with CNR routines at this point, since the PnP EEPROM is corrupted.*

3. Section 6.2.3, Step 3 to be changed as indicated by the (red) italicized text:
3. If the resulting number is greater than the BIOS CNR version number, the error message “**CNR version newer than motherboard. Some CNR functionality may be lost. Press F1 to Resume.**” must be displayed, indicating the version mismatch. *After the F1 key is pressed, the remaining CNR configuration process can then continue, but features available with the newer version CNR PnP EEPROM will not be implemented. In other words, the BIOS will only be able to implement features of which it has knowledge.*
4. Section 6.2.4, Step 3 to be changed as indicated by the (red) italicized text:
3. If the resulting number is not the same as the BIOS AC '97 version number, then the AC '97 controller providing the AC-link to the CNR connector must be disabled. The error message “**CNR and AC '97 Version do not match. AC '97 functionality of CNR ignored. Press F1 to Resume.**” must then be displayed indicating the version mismatch, and the audio and/or modem functions of the AC '97 controller function(s) are being disabled. *After the F1 key is pressed, the boot process can then continue.*
5. Section 6.2.6.2, Step 5c to be changed as indicated by the (red) italicized text:
- 5c. BIOS must place the message “**Illegal AC '97 configuration. AC '97 Audio and Modem functions disabled. Press F1 to Resume.**” on the display. *After the F1 key is pressed, the boot process can then continue.*
6. Section 6.2.6.2, Step 8c to be changed as indicated by the (red) italicized text:
- 8c. BIOS must place the message “**Illegal AC '97 configuration. AC '97 Audio and Modem functions disabled. Press F1 to Resume.**” on the display. *After the F1 key is pressed, the boot process can then continue.*
7. Section 6.2.6.2, Step 9e to be changed as indicated by the (red) italicized text:
- 9e. BIOS must place the message “**Illegal AC '97 configuration. AC '97 Modem function disabled. Press F1 to Resume.**” on the display. *After the F1 key is pressed, the boot process can then continue.*
8. Section 6.2.6.2, Step 11e to be changed as indicated by the (red) italicized text:
- 11e. BIOS must place the message “**Illegal AC '97 configuration. AC '97 Modem function disabled. Press F1 to Resume.**” on the display. *After the F1 key is pressed, the boot process can then continue.*
9. Section 6.2.6.2, Step 12e to be changed as indicated by the (red) italicized text:
- 12e. BIOS must place the message “**Illegal AC '97 configuration. AC '97 Modem function disabled. Press F1 to Resume.**” on the display. *After the F1 key is pressed, the boot process can then continue.*
10. Section 6.2.6.3.2, Step 3h to be changed as indicated by the (red) italicized text:
- 3h. If the two values are not identical, then the BIOS must disable the audio function of the AC '97 controller and place the message “**CNR Multi-Channel Audio Upgrade not compatible with Motherboard. Audio Function has been disabled. Press F1 to Resume.**” on the display. *After the F1 key is pressed, the boot process can then continue.*
11. Section 6.2.7, Step 5 to be changed as indicated by the (red) italicized text:
1. The BIOS may use the SPD[1:0] bits to determine if the motherboard supports the USB version required by the CNR. If the USB version required by the CNR is greater than supported by the motherboard, the BIOS may display the message “**USB version required by the CNR is not supported by motherboard. The CNR USB function will operate at a lower speed. Press F1 to Resume.**” If the USB version required by the CNR is lower than supported by the motherboard, then the BIOS may display a message indicating the discrepancy. *After the F1 key is pressed, the boot process can then continue.*

12. Section 6.2.8, Step 4 to be changed as indicated by the (red) italicized text:

4. The least significant bit (INTF bit) of the resulting concatenation is then used to determine if the LAN interface required by the CNR board is the same as is provided by the motherboard (refer to Section 6.1.7.1 for information regarding the decoding of the INTF bit). If the LAN interfaces do not match, the BIOS must disable the MAC connected to the motherboard LAN interface (effectively removing the MAC from the PCI bus). The BIOS must also display the message “**CNR LAN Interface not compatible with Motherboard LAN Interface. LAN Function has been disabled. Press F1 to Resume.**” indicating the mismatch to the user. *After the F1 key is pressed, the boot process can then continue.*

Ratified